REMARKS

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the claims and the following remarks.

Status of the Claims

Upon entry of the present Amendment, claims 11, 19-20, 23-24, 36, 38 and 53-62 are pending in the present application. Claims 1-10, 12-18, 21-22, 25-35, 37 and 39-52 are cancelled.

Claims 19, 20, 23, 24, 36, 38, and 55-57 were withdrawn from further consideration as being directed to a non-elected invention. Claims 19, 20, 23, 24, 36, 38 and 54-57 have been amended to depend from claims within elected group III, which have been already examined. In light of this, Applicants respectfully request that claims 19, 20, 23, 24, 36, 38 and 54-57 be rejoined and examined on the merits.

Claims 58-62 are new. Support for claims 58 and 61 can be found on page 9, lines 22-23 of the present specification. Support for claim 59 can be found on page 5, lines 9-11, page 6, lines 4-6, page 11, lines 5-7, page 21, line 3, and page 26, lines 4-6 of the present specification. Support for claim 60 can be found on page 6, line 4, page 11, lines 5-7, page 9, lines 22-23, page 21, line 3, and page 26, lines 4-6 of the present specification, and Figure 12. Support for claim 61 can be found within Examples 1 and 2 on page 18, lines 3-5 and 17-19 of the present specification. Finally, support for claim 62 can be found on page 6, lines 4-6, and page 11, lines 5-7, of the present specification. Thus, no new matter has been added.

Based upon the above considerations, entry of the present amendment is respectfully requested.

Issue Under 35 U.S.C. § 103(a), Obviousness

Claims 11, 53 and 54 stand rejected under 35 U.S.C. § 103(a) as unpatentable over D'Amato *et al.*, U.S. Patent No. 4,933,120 (hereinafter "D'Amato"), in view of Meikka *et al.*, U.S. Patent No. 6,666,995 (hereinafter "Meikka"). Applicants respectfully traverse this rejection as applied to the above claims, as well as the amended and new claims.

Although Applicants do not agree, in order to advance prosecution, claims 19, 20, 23, 24, 36, 38 and 54-57 have been amended, and new claims 58-63 have been added, to further clarify and define the invention.

Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), has provided the controlling framework for an obviousness analysis. A proper analysis under 35 U.S.C. § 103(a) requires consideration of the four *Graham* factors of: determining the scope and content of the prior art; ascertaining the differences between the prior art and the claims that are at issue; resolving the level of ordinary skill in the pertinent art; and evaluating any evidence of secondary considerations (*e.g.*, commercial success; unexpected results). 383 U.S. at 17, 148 USPQ at 467.

M.P.E.P. § 2143 sets forth the guidelines in determining obviousness. But before the Examiner can utilize these guidelines, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*; *supra*. To reject a claim based on the above mentioned guidelines, the Examiner must resolve the *Graham* factual inquiries. MPEP § 2143. If the Examiner resolves the *Graham* factual inquiries, then the Examiner has to provide some rationale for determining obviousness, wherein M.P.E.P. § 2143 sets forth the rationales that were established in *KSR Int'l Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Applicants respectfully submit that the Examiner has not appropriately resolved the *Graham* factors, including the factors of determining the scope and content of the prior art and ascertaining the differences between the prior art and the claims that are

at issue. Based on the following, Applicants maintain that the above-mentioned *Graham* factors actually work in Applicants' favor, and submit that since the Examiner did not resolve the *Graham* factors, the rationale the Examiner provides for combining the D'Amato with Meikka is improper.

Applicants respectfully submit that the presently claimed invention is unobvious over the cited references for the following reasons.

Differences between the invention and the prior art

Applicants want to further emphasize that based on the presently claimed invention, the holographic diffraction grating transfer takes place in-line on an existing press (*i.e.*, printing in one pass, wherein one operation is immediately performed after the next one, on the same piece of machinery that is bolted together, as opposed to off-line which is a totally separate process carried out on another piece of equipment).

There is no need to metallise the imaged substrates off-line. It is possible to print OVD's (Optically Variable Devices) at gravure press speeds – from plain substrate to finished printed product – at an economy of scale not thought possible until this invention.

As shown in Fig. 12 of the present application:

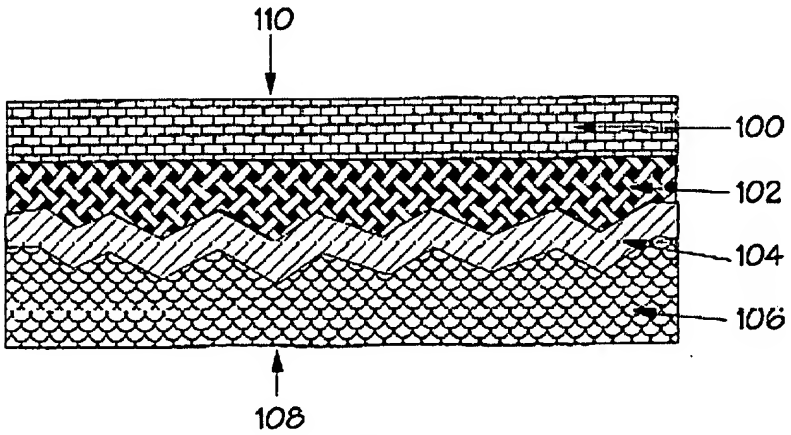

FIG.12.

The product comprises a film substrate 100, a (UV curable) lacquer 102 and a holographic or other sub-microscopic diffraction grating 104 with metallic ink 106 printed over with both first 108 and second surfaces 110 viewable.

As indicated in the presently claimed invention, a particular product characteristic is that the created holographic image may be viewable from a first and second surface, since a metallic ink is used. Additionally, the thickness of the metallic ink when deposited on a substrate permits the transmission of light therethrough (*i.e.*, translucent), and the percentage of light transmission is at least 30%. Further, the optical density of the translucent metallic ink, when deposited, is in the range of 0.2 to 0.8 and is in the range of light transmission.

Also, the substrate can be translucent for viewing an image from the first or second surface, or opaque for viewing an image from the first surface.

With regards to D'Amato, the reference teaches that the coating with the reflective material is done by physical vapor deposition of the metal. A mask technique is used for discrete area metallization (See D'Amato, column 6, line 37).

Applicants respectfully submit that the presently claimed invention is distinguished from D'Amato in that the presently claimed invention uses a translucent metallic ink to form the metal layer, while the metal is *vapor deposited* in D'Amato.

An advantage of the presently claimed invention is that the holographic diffraction grating transfer takes place in-line on an existing (printing) press. That is, there is no need to metallise the imaged substrates off-line by vapor deposition.

Applicants also note that a disadvantage of vapor deposition is that the metal can only be applied as a uniform coating or, by using appropriate masks, in swipes running in the machine (long) direction of the plastic film web. If it is desired to create a discreet metallised pattern, this is usually

accomplished by first metallising the surface overall, then etching away the unwanted metal with the use of a corrosive etchant such as caustic soda or an acid.

The Applicants further distinguish the invention by emphasizing in new dependent claims that the deposition of the translucent metallic ink is by printing (more specifically, Gravure printing), and that the substrate is either translucent or opaque.

Another advantage of the presently claimed invention is that the created holographic image may be viewable from a first and second surface since a translucent metallic ink, with an optical density in the range of 0.2 to 0.8 when deposited, is used. Additionally, according to the present invention, the translucent metallic ink can be printed in specified areas in register with the embossed image. D'Amato is silent with regards to producing an image viewable from a first and second surface. Therefore, based on the above, D'Amato neither teaches nor suggests the subject matter of the present application.

Concerning the Meikka reference, Meikka relates to a process for preparing finely divided particles, each of which has at least one embossed surface, wherein the general object of Meikka is to provide a process for making very thin, bright embossed metallic flake pigments.

The embossed metallic flake pigments within Meikka may be processed into a lacquer or printing ink formulation. The embossment present on each individual flake of pigment, in random orientation and primarily in two-dimensions, creates a unique iridescent effect if the embossment is a diffraction pattern or hologram. The metal particles disclosed in Meikka are embossed (holographic aluminium particles). In contrast, the presently claimed invention metal particles are not embossed, they are deposited by printing.

Another difference between the presently claimed invention and Meikka is that in

the present invention, a filmic substrate is printed with an ultra violet curable lacquer on its upper surface, (b) a (sub-microscopic) holographic diffraction grating is cast (transferred) into the surface of the lacquer with a nickel shim, or polymeric shim having the holographic grating thereon, (c) the holographic image in the form of a diffraction grating is imparted into the lacquer and instantly cured (5), and (d) a metallic ink (6) is printed (7) over the holographic grating while causes the holographic diffraction grating to become light reflective. In comparison, in Meikka, the embossed metallic flake pigments are used to create a (randomly oriented) iridescent effect.

In view of the above, it is submitted that the present invention as claimed is distinguished over the combination of D'Amato and Meikka.

In light of the presently amended claims and remarks, because there is no disclosure, teaching, suggestion, reason or rationale provided in the cited references that would lead one of ordinary skill in the art to arrive at the instant invention as claimed, it follows that the D'Amato and Meikka references are incapable of rendering the instant invention obvious under the provisions of 35 U.S.C. § 103(a). The cited secondary reference, Meikka, fails to cure the deficiencies of D'Amato. Therefore, even if the references were combined in the manner suggested by the Examiner, the result of such combinations would still not suggest the features of the presently claimed invention.

Based upon the above, and applying the *Graham factors* analysis test, it is submitted that a *prima facie* case of obviousness has not been established.

CONCLUSION

Applicants respectfully submit that each ground of rejection raised by the Examiner has been overcome, and that the present application now stands in condition for allowance. Accordingly,

such allowance is solicited.

Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Paul D. Pyla at the telephone number below, in an effort to expedite prosecution in connection with the present application.

The Commissioner is authorized to charge any deficiency or to credit any overpayment associated with this communication to Deposit Account No. 23-0975, with the EXCEPTION of deficiencies in fees for multiple dependent claims in new applications.

Respectfully submitted,
David BOSWELL *et al.*

By: #59,228
Paul D. Pyla
Registration No. 59,228
Attorney for Applicants

WMC/PDP/p
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
July 30, 2009